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PLANNING AND ORGANIZING COMMITTEE 2009

President:	Ross Kendall	07 3378 1187
Vice President:	John Moss	07 3245 2997
Treasurer:	Rob MacSloy	07 3824 4348
Secretary:	Peter Hendry	07 3206 0048
Newsletter:	Daphne Bowden (daphne.bowden1@bigpond.com)	07 3396 6334
Publicity & Library	Lois Hughes	07 3206 6229
Excursion Convenor:	Alisha Steward	07 3275 1186

PLANNING AND ORGANIZATION MEETINGS

A quarterly meeting is scheduled in order to plan club activities and the magazine. See BOIC Programme.

CONTACT ADDRESS AND MEMBERSHIP DETAILS

PO Box 2113, Runcorn, Queensland 4113
Membership fees are $25 for individuals, schools and organizations.

AIMS OF ORGANIZATION

- To establish a network of people growing butterfly host plants;
- To hold information meetings about invertebrates;
- To organize excursions around the theme of invertebrates e.g. butterflies, native bees, ants, dragonflies, beetles, freshwater habitats, and others;
- To promote the conservation of the invertebrate habitat;
- To promote the keeping of invertebrates as alternative pets;
- To promote research into invertebrates;
- To encourage the construction of invertebrate friendly habitats in urban areas.

MAGAZINE DEADLINES

If you want to submit an item for publication the following deadlines apply:
March issue – February 21st June issue – May 21st
September issue – August 21st December issue – November 21st

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COVER

Macleay's Spectre (*Extatosoma tiaratum tiaratum*) - Painting by Lois Hughes. Prints of this painting may be available from the artist. Ph. 07 3206 6229

FROM THE PRESIDENT

Over half a century ago, one of my teachers quoted a (possibly unoriginal) saying, which went "*The more we know, the more we don't know*." At the time, I probably thought that he was playing with words but, while I cannot remember his name, I have never forgotten the words of this seemingly paradoxical saying. But how true it is that, as we acquire information and understanding of the world of invertebrates, so too do we come to realise that there is so much more to learn. I am sure you will find new information in this edition that will perhaps lead you to look for further information to share with others in the future.

Thanks to all who have written articles for this edition of our magazine. Being more a butterfly and moth person by inclination, I have always looked at stick insects as rather ugly, ungainly creatures but have been persuaded that they have their own particular attraction after reading the various contributions. I am sure you will also find it a delight to read Andrew Atkins' article on the boat-building caterpillar and Densey Clyne's account of the pursuit of forensic evidence on the activities of a Mason Wasp. Then there is the "basket weaving" caterpillar and Cycads with the "blues" and more…..

We have experienced an increasing number of requests to mount information displays for various public events and I am sure that our displays do make a positive contribution. Unfortunately, the task is carried out by a relatively small number of members and we have been unable to meet all requests. Should you be able to spare a day or two per year to help out, I would really like to hear from you.

Best wishes ***Ross***

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Spiny Stick-insect/Macleay's Spectre (*Extatosoma tiaratum tiaratum*) – *Lois Hughes*

"What is that?" my husband remarked while examining the leaves of our small tropical apple tree.

I've come to expect the unexpected and unusual, especially when out and about on our property but some creatures defy the imagination they are so awesomely put together. The insect we had just discovered was one such creature. Had I not seen one recently at our committee meeting I would never have believed such a fearsome looking creature existed and certainly wouldn't have been so delighted or even considered handling it!

With abdomen curled scorpion-like over her back, was hanging a perfectly camouflaged female Spiny Stick-insect. Two-toned green, just like the leaves, she had what resembled torn leaves on her legs and parts of her body which was also adorned with red thorny spines.

Some thorny spines were strategically positioned on her legs, a trap for the unwary should she choose to suddenly defend herself by snapping her legs closed upon intruding fingers. With only small leaf-like rudimentary wings and unable to fly, this was really her only defence other than dropping to the ground and feigning death.

Her conical head resembled a push-bike rider's helmet adorned with red spines. Nearby we located a miniature version about 2 cm long, presumably her offspring.

Surprisingly, she showed no resistance as I lifted her gingerly onto my hand and then transferred them both to one of the large coolite boxes with a mesh lid in which I hand rear caterpillars, adding apple tree branches for food and support. I situated the box atop the large insect enclosure by the back door.

After handling them I detected an unfamiliar odour on my hands, not unpleasant but difficult to identify. A lemony smell, perhaps with a hint of honey, somewhat like squashed Marsh Fly!

The very next afternoon we discovered a male Spiny Stick-insect beneath a leaf which was overhanging the female's box. I was impressed by his ability to

Slender, brown, fully winged male Macleay's Spectre

locate them. Was it the scent I had found on my hands that beckoned him?

Claiming his prize. The male has found his perfect match

Unlike the plump green body of the female, his was a dark mottled brown, slender with full length wings which he fanned out, revealing delicate mottling when I took hold of him. His head was similarly conical and spined but with very long antennae. His legs also resembled torn leaves. Introducing the male to the females completed the family and he lost no time in getting up close and personal and was mating with the adult female next morning. These events occurred from 6th December 2008.

I added Guava, Raspberry, Eucalyptus, Black Wattle and Banksia Rose to their diet and they thrived, the adult female becoming extremely heavy as can be seen from the cover illustration. An interesting observation was the colour of her frass. It ranged from black to very dark brown through to light tan and dark grey through to pale grey-green. In the past I have made dyes from vegetation to colour wool I had spun and was surprised by the resultant colours. Green doesn't necessarily produce green. Could these plants produce the variety of colours, as dye, I had seen in her frass?

The small green nymph shed her final skin on the 14th January 2009 and was found mating on the 19th February 2009. She was given her own male companion after a gift of one from a fellow club member. She hasn't grown as large as the other adult and surprisingly is now a beautiful creamy yellow on her extremities with pale green and yellow on her body.

Colour change now mature, this nymph is yellow and green

The larger female is a prolific egg producer. Her numerous small oval-shaped eggs are a speckled brown with a distinctively shaped whitish mark down one side and with a turret-like knob atop. These are just flicked to the ground

and are attracting ants. None of their eggs have hatched as yet as they can remain dormant for between five and nineteen months.

Nymph's antics, displaying colour variation

I do have the pleasure of raising these nymphs after a gift from a friend. The greatest challenge was in transferring them into their new home as, like turbo-charged black ants, they scurried in all directions, tail curled over their backs, intent on going anywhere else but into the cage. Once enclosed, changing their leaves produced similar problems and it wasn't unusual to find them outside the enclosure and on the container of leaves atop the cage left for such a purpose.

Dark brown or black with tan head and whitish collar, they soon moult, displaying the conical head, some the broader body with scalloped edges like the female - really cute miniature adults. A couple are still very dark with the remainder various shades of pale or yellowish-brown, with mottled legs.

Phasmid eggs – 1. Goliath (*Eurycnema goliath*) 2. Children's (*Tropidoderus childrenii*) 3. Macleay's Spectre (*Extatosoma tiaratum*) (S.E.Qld.) Image © Courtesy Queensland Museum, Jeff Wright

The larger adult female "Spiny" stopped eating and died on the 30th March 2009, although she hadn't exhibited any of the signs of ageing that a female Goliath did. I wondered if internal parasites are a health hazard for phasmids. The adult males are still alive and well at the time of writing, 15th May 2009.

I have many Spiny Stick-insect eggs which I am willing to share with interested and committed people who will give them the care they require, as well as some Goliath nymphs in various stages of growth.

Photos : Peter Hendry

To Mr. & Mrs. Spiny on 23.5.09, a nymph of 5 months incubation. Head and thorax dark to light tan. Abdomen black. A little ripper!

PRESIDENT'S REPORT FOR AGM 4TH APRIL 2009

A year ago we had begun to explore the issue of a name change for the Club's Newsletter. Many members will be aware that after a series of consultations and discussions we finally decided on the new name and I again thank those who made contributions and suggestions.

The publication of "Metamorphosis Australia" in colour has been very well received and I assure you that problems with printing which led to some images being poorly reproduced on paper have been addressed and we do not expect those problems to reoccur. I again thank all those who have submitted articles for publication in the last year and encourage members to continue submitting items of interest for publication in the coming year. On a technical note, images are best sent as high-resolution JPG files.

We have again been fortunate to receive a grant of $1600.00 from Brisbane City Council to assist in meeting our printing costs and I wish to publicly thank them for their generosity.

I am sometimes asked how many members there are in the Club. Those of you who receive the membership directory in March will have an approximate idea of the numbers. Currently we have 240 members. This is a 25% increase on last year's number.

There have been several successful outings during the year but I invite you to contact us with further ideas at any time.

Our two big public functions are at IndigiScapes in June and the Society for Growing Australian Plants show at the Mt Coot-tha Botanic Gardens in September. These provide us with the opportunity to make contact with the wider community and to raise some funds mainly through the sale of books and plants. In the last year, we also conducted several displays in conjunction with local councils.

I must thank members of the planning committee for their continuing support and valuable contributions: Alicia for her happy disposition and the organization of excursions; Daphne for the enormous task of publishing the magazine, her maintenance of membership records, the sending and receiving of emails, potting of hundreds of vines and her seemingly infinite reserves of patience; John for his careful attention to scientific detail and accuracy; Lois for her wonderful artwork and cheerful nature; Peter for his cheerful secretarial memos and moth articles; Rob for his meticulous keeping of our financial records. I look forward to another successful year.

Ross

Notes on Kirby's Stick-insect; the master of camouflage?

Jack W. Hasenpusch[1] & Paul D. Brock[2]

Introduction

Very little is known about Kirby's Stick-insect *Xeroderus kirbii* Gray, 1835, one of the rarest of Australian phasmids. This winged species is rather distinctive, with lateral lobes on its abdominal segments; they have a remarkable camouflage, even compared with other stick insects. These notes add a little to our knowledge of these insects.

Xeroderus kirbii male from Garradunga

Known information

Gray described this species from Australia, without locality (type specimens can be seen at http://phasmida.speciesfile.org go to search, taxon and type: kirbii, then click on the photos).

Our new book 'The Complete Field Guide to Stick and Leaf Insects' (by Brock & Hasenpusch, CSIRO Publishing, 2009) summarises what is known, i.e. this species is rarely found in rainforest, both coastal and inland, from Rockhampton to north of Cooktown in northern Queensland, also occasionally in south-east Queensland, for example: Coolum, Fraser Island, Gin Gin and Noosa (Marcus Beach). From collecting data, a link with *Melaleuca* forest was expected.

Xeroderus kirbii female from Garradunga

Medium-sized, males are 60-70mm in body length, females 85-97mm, rather mottled in colour. When disturbed, a spectacular startle display reveals grayish-brown hind wings, with reddish inner margin. Up until the beginning of 2009, this species has mainly been known from males occasionally attracted to light, and a few specimens in collections, mainly in Australian museums. Females appeared to be remarkably rare, with the well known naturalist Harry Frauca reporting in a newspaper in 1969 with the headline 'This stick insect has never been recorded'. He figured an adult female (but found both sexes), on a bloodwood tree [*Corymbia*] in the Takilberan Range northwest of Gin Gin, and stated 'it is almost impossible to see as it rests on a tree trunk'. There is also a good illustration of a female

from Townsville on Swamp Box, *Lophostemon suaveolens,* see http://gvcocks.homeip.net/Phasmatodea/Xeroderus_kirbii.htm .

Xeroderus kirbii egg, dorsal and lateral views

New information

The first author's sharp eyesight spotted a female on 2nd February 2009 on a tree trunk, which has solved a mystery as to which phasmid eggs had recently been collected in traps laid underneath large *Backhousia* trees in his rainforest plot at Garradunga, near Innisfail [an area well known not only for recently described phasmids, but also its varied and rich insect fauna]. Regarded as a special little place in the rainforest site, the enormous basket ferns in the trees would make ideal habitat for any egg ensuring future generations. Musky Rat Kangaroo burrows in the roots would also be a haven for any eggs. From the egg traps, it is known that at least some eggs of this species fall to the ground and we probably have a cyclone to thank for this rare specimen; 300mm of rain fell the previous night, probably dislodging the female from the canopy. Both sexes are almost totally flat on the underside and the abdominal flanges look like little bracket fungi growing in a row. Nearly always found on tree trunks, the camouflage as shown in the figures is quite remarkable. The trees mentioned above all belong to the myrtle ***family*** Myrtaceae. There are many recognised species in the family, most of which are endemic to Australia and it is likely that *Xeroderus kirbii* may feed on various plants. The unusually shaped egg is figured for the first time and will be described in a forthcoming paper on the little known subfamily Xeroderinae, along with eggs of related species. It is hoped that rearing this species will provide further opportunity to study its behaviour.

Xeroderus kirbii female, close up from Garradunga

Photos: Jack Hazenpusch

1 Australian Insect Farm, PO Box 26, Garradunga, Nr. Innisfail, Queensland 4860, Australia. E-mail: info@insectfarm.com.au

[2] 2 Greenways Road, Brockenhurst, Hampshire, SO42 7RN, U.K.

E-mail: pauldbrock@btinternet.com

Update on the Lord Howe Island Stick-insect *(Dryococelus australis)* - *Patrick Honan*

The Lord Howe Island Stick-insect breeding programme continues at Melbourne Zoo but with fewer individuals than the peak of 500 or more in the last couple of years. They are being fed mostly Lord Howe Island Melaleuca *(Melaleuca howeana)* and Tree Lucerne *(Chamaecytisus prolifer)*, which are using the opportunity of reduced insect numbers to recuperate for the coming winter. We've trialled about 75 other species of host plants, with only five or six showing potential as alternative sources of food, including Moreton Bay Figs *(Ficus macrophylla)*, Roses (*Rosa* species) and Blackberry *(Rubus fruticosus)*. There are various degrees of success with food plants, ranging from the best ones where stick insect mortality is low and growth is rapid, to others (such as Lemon Trees *(Citrus limon)*) where few stick insects will survive, as mortality may be more than 90% but growth is extremely slow. Plants currently showing potential in food trials include a range of mainland Australian melaleuca species as well as Guava *(Psidium guajava)*.

The stick insects continue to be one of the most interesting but trickiest of insects to breed and, being nocturnal, they are also quite tricky to display. A new exhibit was officially opened by Jane Goodall at Melbourne Zoo late last year, but tweaking of the display continues. We're also trialling a pilot program of sending the insects out to schools, with mixed success at the moment - the students are thrilled by each birth and devastated if the early instars don't survive.

Lord Howe Island students and their first encounters with the island's original inhabitants

In December last year, 20 stick insects returned to Lord Howe Island from Melbourne Zoo to live in a large enclosure within the plant nursery, there to be viewed by locals and tourists on the nursery's regular plant tour. To commemorate the event, the local Member of Parliament and CEO of the LHI Board put on a celebration in which local rangers and schoolchildren gave speeches about their hopes for the future of the stick insects and the island's environment. The ABC was there to film the event and did several stories on the insects and their fate - it was very pleasing to see the insects being lauded by such a wide range of people and to see invertebrates being the impetus for large scale environmental restoration.

Planning for the eventual return of the insects to Lord Howe Island continues, with the rat

eradication programme currently scheduled for winter 2011. This will be one of the largest eradication programmes ever undertaken in the world, but is essential if the insects are to survive in their original habitat.
Photo : Patrick Honan

Ed. See earlier article in Issue 45 June 2007

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The Mysterious Cycad Blue Butterfly, *Theclinesthes onycha* (Hewitson [1865]) - *John T. St. L. Moss*

Background

Theclinesthes miskini - male

This interesting butterfly, until 1978, was confused with the similar *Theclinesthes miskini,* to the extent that their identities had been reversed! Sibitani and Grund (1978) recognized this error, corrected it and described a further subspecies *T. onycha capricornia*, which differed from the nominate subspecies by "the paler, more uniform, brownish ground colour, weakly marked dark linings and strongly marked white linings beneath and (with) more heavily marked caudal spots".

However, Braby (2000) points out that the morphological differences between the two subspecies are really only evident in the "summer" form. Both subspecies exhibit "summer" and "winter" forms which he clearly illustrates in the colour plates. To confuse the picture, as the two subspecies range overlaps in coastal central and southern Queensland, there are intermediate forms!

In regard to this, Dunn and Dunn (1991) point out that Sibitani and Grund (1978) "considered Brisbane material to be transitional but with a greater affinity to *T. o. capricornia".* Dunn and Dunn (1991) further state that "the transitional region specified by Sibitani and Grund (1978) between these two subspecies appears relatively large and it may prove more useful to treat these as local forms". And to further confuse the picture they point out that Sibitani and Grund "were unable to determine to species many specimens of the *onycha-miskini* species group at the ANIC (Australian National Insect Collection)"! They then conclude that the "two species" need "further taxonomic attention"!!

Braby (2000) appears to be in agreement when he says "the distributions of the two subspecies are difficult to delineate, and in central and south-eastern Queensland where their ranges meet there is possibly a cline". He further states that "it is also

possible that the differences between the northern and southern populations of *T. onycha* are more strongly tied to ecological rather than geographical factors".

Hostplant preference

Analysis of records of the two subspecies and their presumed host cycads from specimens in collections (e.g. Queensland Museum, Qld Dept. of Primary Industries etc.) by Forster and Machin (1994) indicated that the two subspecies may indeed be separated on their hostplant preferences. From their tabulation it would appear that the two subspecies are separated by preference for one or other cycad family, i.e. Zamiaceae (e.g. *Macrozamia* species) is utilized by *T. o. onycha* and Cycadaceae (e.g. *Cycas* species) by *T. o. capricornia*. One apparent exception to this (i.e. *T. o. capricornia* larva utilizing *Macrozamia pauli-guilielmi* at Cooloola was in fact the nominate subspecies (T.A. Lambkin, pers. comm.). Braby (2000) in fact includes it as *T. o. onycha* in his larval food plant listing for this species. Also, the Qld. Museum specimen, supposedly of an adult *T. o. capricornia,* collected at Mt. Moffatt Central Queensland by G. Monteith, was tabulated by Forster and Machin opposite *Macrozamia moorei*, the only cycad known from this sandstone based area (Megan Thomas, Qld. Herbarium (pers. comm.). At this time I have not seen the specimen, the identity of which needs confirming.

Cycad Blue (*Theclinesthes onycha* ssp. *capricornia*) female on *Cycas revoluta*

I have personally collected *T. o. capricornia* on Scawfell Island (55km southeast of Mackay) where the only cycad was *Cycas media* (see Batianoff, 1995), so there was no doubt as to what its hostplant was. (Moss, 1995). In recent years I have often come across *T. o. capricornia* in open eucalypt forest near the Perry River south west of Bundaberg. The larvae (and the larvae of the reddish orange chrysomelid beetle *Lilioceris nigripes*) commonly defoliate new growth of the uncommon and endangered local cycad *Cycas megacarpa,* but I have never found them on the far more common and widespread *Macrozamia mountperryensis*.

Strangely, the conclusion reached by Forster and Machin (1994), in discussing these subspecies and the mutualistic chrysomelid beetle *Lilioceris nigripes* appears to be at odds with their data. They state "despite the diversity in Australian hosts (Table 1), there has been no apparent specialisation of the beetle on the butterfly with respect to the different Australian cycads..."! I am reasonably confident in saying that, to date, the larvae of presumed *T. o. capricornia* have not been found on *Macrozamia* nor *Lepidozamia* and conversely *T. o. onycha* larvae have not been found utilizing *Cycas*

species. Braby (2000) also concludes that the two subspecies are separable on their cycad family host preference, but he also adds "further work is needed to determine the status of these populations".

Recent developments

I have laboured the above information deliberately because it is important and relevant to recent observations that the butterfly "appears" to have altered its biology. Since the summer of 2005 there has been a substantial increase in the numbers of this butterfly in Brisbane and elsewhere in southeast Queensland.

For the first time gardeners, council staff, botanists and others are reporting damage to the exotic Japanese cycad *Cycas revoluta* which is very popular and widely grown in southeast Queensland. What is unusual is that *C. revoluta* has not previously been reported as a hostplant for this butterfly. Furthermore other gymnosperms outside the cycad families are reported as being attacked e.g. Don Sands (pers. comm.) reports the butterfly larvae feeding on young foliage of cultivated Wollemi Pine (*Wollemia nobilis*)!

Alan King (pers. comm.) reports that for the last 3 years in Townsville cycads have also been "hammered" by the butterfly, in particular in the city's lovely Palmetum, where both *Cycas media* and *C. revoluta* are both being utilized. This observation is relevant as it tends to negate one theory for the south east Queensland "invasion" which supposes that the *capricornia* subspecies is moving into areas where only the nominate subspecies used occur and where cycad damage (presumably *Macrozamia* and *Lepidozamia*) has been kept to a minimum by the presence of natural predators and parasites; the supposition being that the invading subspecies had natural protection and/or its own predators/parasites were absent in the areas involved.

(*Theclinesthes onycha* ssp. *capricornia*)
Male Left – Female Right

It is certainly puzzling as to why the natural predators and parasites (actually parasitoids) do not appear, at this time, to be affecting the butterfly's abundance. Have the parasite numbers been kept down by some unknown factor which may be environmentally determined e.g. climate change effect or are the parasites present but the butterfly has developed some added resistance? This latter theory has some substance as both Don Sands

(pers.comm.) and Alan King (pers. comm.) have reported seeing larvae with a parasitoid load complete full metamorphosis.

I recently received a letter (12th May'09) from Robert Ham in Cairns commenting that "Summer of 2008/2009 is the first time I have noticed a lot of feeding on the hard-leafed cycad (*Cycas revoluta*) both in my own garden and around the area. Numerous adults were flying and larvae/pupae present." This three year delay c.f. the situation in Townsville and Brisbane is interesting and somewhat puzzling. The plot thickens!

No doubt with further observation the story will continue to unfold. It would be useful to follow up the suggestions of Braby and Dunn and Dunn in relation to further taxonomic work presumably in the area of molecular studies (DNA, RNA etc.) which has shown to be useful in elucidating the relationships of other lycaenid species groups. Any takers?

Acknowledgements
I thank Jak Guyomer, Robert Ham, Alan King, Trevor Lambkin, Dr Don Sands and Megan Thomas for their observations and comments, Trevor Lambkin for reviewing the manuscript and Daphne Bowden for her typing skills! Russel Denton provided the excellent photographs.

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Photos : Russel Denton

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The Water-borne Voyages of the Orange Swift: 'Avast me hearties, *amalia* armada to starboard'! - *Andrew Atkins*

Skippers, or indeed other butterflies, are not normally associated with water dispersal, other than across oceans in migratory flights. However there are a few recorded

observations of the larvae of the skipper butterflies cutting their shelters from the food plant, falling into waterways, and then drifting downstream (eg. Müller and Wood, 1999; Braby, 2000).

The practice of larvae cutting their final instar shelters to the ground is not uncommon, but has mainly been observed in the monocotyledon-feeding (grasses, sedges, bamboo, orchids, palms etc) skippers in the Hesperiinae subfamily, and in Australia, particularly those recently classified within the Tribes Taractrocerini (Grass-darts, Palm-darts, *Sabera* etc) (Quick, 1982, Wood, 1986) and Baorini (Grass-swifts). The latter tribe includes the genus *Parnara,* which contains two species, sometimes called 'Rice-swifts', both of which have larvae that commonly feed on endemic and introduced rice-grasses (*Leersia* and *Oryza*). The genus occurs from Australia and New Guinea, throughout SE Asia, and the Orient to India.

Parnara amalia (Orange or Hyaline Swift) is a locally common species in the warmer regions of eastern Australia, and is often found close to swamps. Their larvae usually eat *Leersia hexandra.* During a collection trip to Stanage Bay, Queensland (see Forbes, G., BOIC Newsletter, June 2008 edition) a significant colony of the Orange Swift was found near a coastal fresh water dam and connecting swamp. Although the adults were scarce, numerous juveniles were found in tube shelters made within the leaves and grass stems of *L. hexandra* growing in and around the waterway and northern edge of the dam. Further investigation revealed final instar larvae in small, oblong, sealed pupal shelters lying loose at the base of these plants, particularly on, in or at the edge of the water. Further out from the shore, some metres away, several of these shelters were seen floating away, apparently released by recent heavy rain and aided by water currents and a light breeze. A few of these were retrieved (using a butterfly net and extension!) and found to contain pre-pupal larvae and pupae suspended at the rear (cremaster) with silk. Each shelter was somewhat boat-shaped (see illustration), and watertight, being securely held together with silk and lined with a waxy secretion of white powder. They floated with about 40-50% immersion. The orientation of the pupae within was not recorded.

Parnara amalia larva

P. amalia pupa

Initially, because of the variable form of each instar, it was thought that these larvae may represent two or three species of Baorini or Taractrocerini, but all those reared to

adults were Orange Swifts. The young larvae were all greenish with variably marked brown to black hairy heads, however the final instar was quite distinctive with four pale, almost luminous, bluish-green oval 'lumps' above each proleg on either side of the body (see illustration). These presumably are the wax-glands used to cover the body and line the inside of the shelter. Apart from the wax-glands (not mentioned by Braby, 2000) the life history is identical to that of *P. bada* (Grey Swift).

Is this water-borne pupation *strategy* a common occurrence? I remember several years ago reading (source unrecorded) that a species in this genus (probably *P. bada*) had been collected from floating pupal shelters in rice-paddies in Southeast Asia. Also the larva of this same species has been observed to cut away its larval/pupal shelter to drop into water and float away (Braby 2000). I have recently reared adults of *P. amalia* and *P. bada* (and also the taractrocerine skipper *Arrhenes marnas* [Swamp Darter]) on a pot-grown *L. hexandra*, initially all found together in wetlands at Palmwoods (Sunshine Coast), but they were not tested for flotation of pupal shelters. Maybe some readers (land-lubbers or sailors alike) might recall other published material, or have observed this habit? Undoubtedly the buoyant vessels would provide short or even long-distant dispersal to other waterlogged areas (or even out to sea), especially after flooding rains. Do those troublesome 'pirates', the ducks, cormorants, coots, lily-trotters and herons, or frogs and water-dragons know about this ready-made 'seafood' disguised in a neat grass sushi-style package?

Note: The new tribal classification referred to in the text follows the preliminary DNA research of Warren et al., 2008, which placed all the world's skipper genera in a tentative phylogeny (family tree) in which several new tribes were described.

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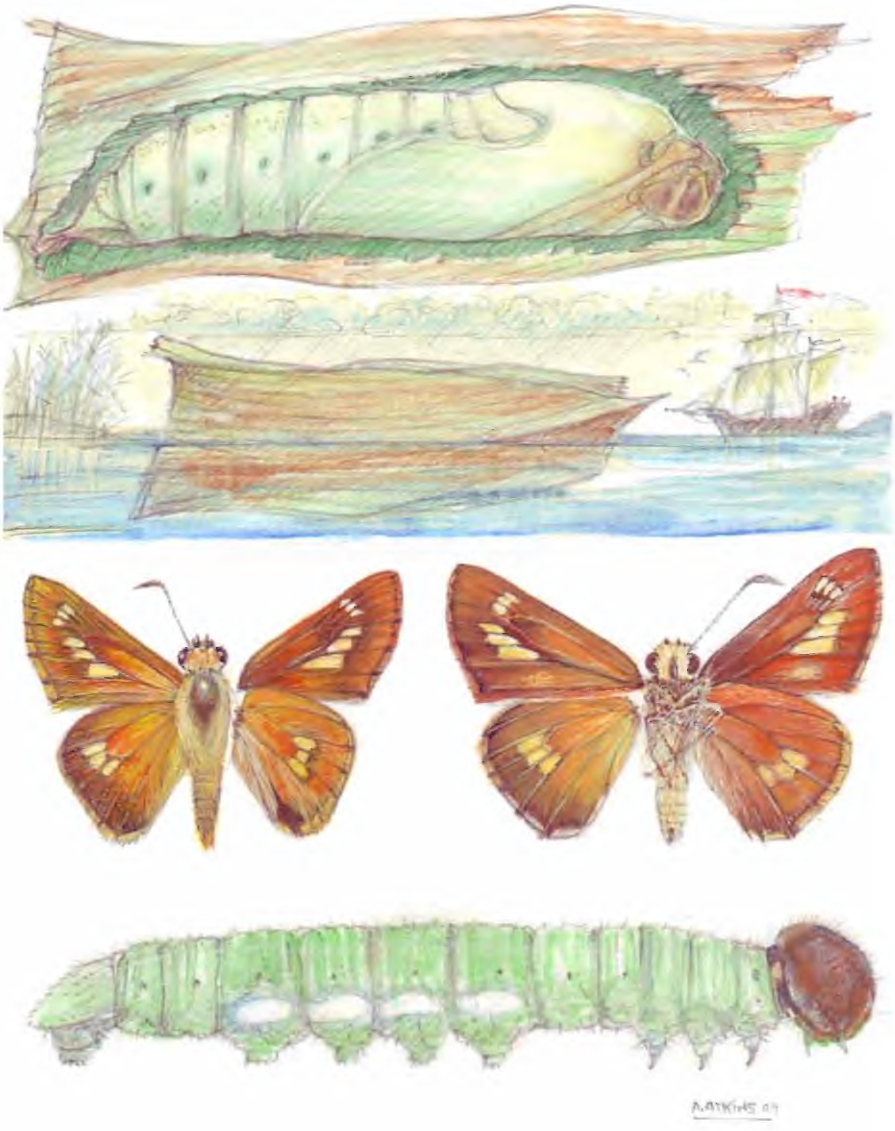
Photos : Wesley Jenkinson



Artwork : Andrew Atkins

The Way of a Mason Wasp – My Vespid Vigil - *Densey Clyne*

I sit on my back verandah, camera dangling from my neck, waiting for my house guest to return. I've waited for nearly two hours. The camera is on auto focus, the ladder is in place and I am ready to leap into action. After 6 weeks of solid wasp watching there is still much I need to find out about the big black and gold wasp building her nest on the corner of my kitchen window.

Adding funnel

When I first noticed her, this handsome mason wasp had already made her first cell. Its construction was unlike those of the various mud-daubers that decorate my verandah walls every summer. These are mostly the elegant wasp-waisted *Sceliphron laetum* who stocks her mud nest with spiders. With my now obsolete film camera, I had recorded her life story many years earlier.

But this wasp was new to me. No wasp waist, a sturdy block body with gold rings and, I discovered later, some clear differences in behaviour and architecture. Her mud nest was bulkier than the mud-daubers' and, most importantly, she finished off each cell with a wide-mouthed funnel.

For me the funnel was a clue to her identity as *Abispa splendida*, and I learned that her prey was not spiders, but caterpillars. Probably quite a common wasp elsewhere, but here at hand was a new life story for me to follow and photograph. And now I had a new digital SLR camera whose multi functions I was only just grappling with.

I find it easy to photograph the wasp at her nest. Any quick movement upsets her but once she's at work I can climb the ladder and nose my camera lens close to her. Leaving the nest, she checks me out as a movable part of the landscape then takes off at high speed.

For a while her speed baffles me. Where is she going? Arriving at the nest she flies slowly with her mud ball, her contralto buzz alerting me. Leaving, she is hard to follow but now with her third cell finished I need to find out where she gets her building materials. I soon find out she has two destinations.

I have always assumed that mud wasps gather their mud directly from some wet spot, having both observed and read about this. In her case I am wrong. I discover that she is (1) making regular visits to my lily-pond and then (2) flying to a garden bed where the soil is hard and very dry. I need to watch her at both places.

Drinking at pond

Over several days I sit very still at the edge of the pond, camera at the ready, counting my breaths. No time for stop watches, this is a useful way of timing the wasp's comings and goings. With a buzz she zooms past me to land on a lily pad, always a different one. She prefers to drink from a puddle on a lily pad rather than directly from the water. Her visits are brief and most of the time she sits too far away and with her back to me. Never mind, a few successes and – what a joy! – I can delete all the failures.

Now, catching the wasp's rapid flight from the pond and around the back of my garden pavilion, I make a quick dash around the front of it to see her land on the dry soil. Again I must wait at a distance until she starts work on the soil, but close up I see something intriguing. The wasp is turning the hard, dry soil into mud with water from her crop! Now using front feet and mandibles she rolls the mud into a ball and carries it under her 'chin' directly back to the nest. So by making her own wet clay, this potter is independent of terrain and weather.

Making a mud ball

I've timed her regular round trip at 60 breaths, which equals approximately 4 minutes, but there are other more irregular comings and goings. All this time I am missing two major events – the stocking of a cell and the laying of an egg. In the meantime, round about the time of the fourth cell, I find the wasp visiting the pond for another reason. After each cell is finished and stocked, the wasp completely dismantles the funnel. She doesn't simply chop it up and drop the bits to the floor. She moistens the rim with pond water, balls up the mud and recycles it on the outside of the now bulky nest. That done, she also closes the cell.

Dismantling funnel

Recycling clay funnel

Smoothing inside of funnel

But to go back a step. For the period of often three or four days between finishing a funnel and stocking the cell, the wasp intermittently visited the nest for up to 5 minutes at a time. There she would walk about rapidly palpating the surface with her mandibles – perhaps checking whether the clay was sufficiently 'cured'? She continued to add more mud balls to the surface of the whole nest, and unlike the mud daubers, which smooth their mud balls out, *Abispa* adds them almost entire so that the nest surface has a bubbly appearance. By contrast she kept the inside of the funnel quite smooth. However, for most of those 3-4 days (or 6 days during one rainy period) she was absent from the nest, probably searching for caterpillars.

It was important not to miss those important events – the stocking with caterpillars and the egg-laying. So the third day after cell number 5 was finished, I set up a chair close to the nest, with camera now on a tripod. There would be no time to climb the ladder. To my joy (and relief) during a six hour vigil, my busy little friend returned three times with a fat green caterpillar. In a flash, she stuffed it through the funnel and into the cell and in a flash I caught her doing it – after the third try!

Inserting caterpillar

As for the egg-laying, I realized the funnel would hide this from sight. All I could expect was to catch the wasp entering the funnel tail first and disappearing backwards. At the time of writing this I have failed to do so.

A question remains – why the funnel? Is it to hide the egg-laying female from parasitoid wasps? Earlier, only once, I had seen that scourge of mud-daubers the metallic green *Stilbum* near the nest. It even alighted on the nest whose incumbent appeared to take no notice, even when the intruder poked its nose into the funnel. Free-loaders of the insect world, these "cuckoo-wasps" make no nest of their own but seize the moment while a cell is being provisioned to lay their own egg inside. So the parasitoid's offspring get to eat the food caught and preserved by their unwitting hostess.

Well, it all balances out in the long run, otherwise the world might be taken over by mud wasps. I am now waiting for my tireless friend to build her sixth cell and hope that at least some of her daughters emerge safely next year to re-decorate my back verandah.

Photos : Densey Clyne

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Where am I? – *Ben Jacob*

It was in the afternoon, on leaving our friend's house, when my mum was picking leaves for our orphaned possums, what she didn't know was that she was giving a leafy passenger a ride. When we got home my mum was giving the leaves to the possums when a "green praying mantis" fell to the floor and scurried away under a chair. But was it a praying mantis? The next day my brother Zac found that which was astonishing! It was a leafy green Children's Stick-insect (*Tropidoderus childrenii*). He was worried that if he put the stick insect in the cage with a male we had, things would go wrong. We eventually decided to call her Mia after a little girl that lived across the road from us.

3 months passed, and she molted to adult form. When I had first taken an interest in the wonders of the phasmid or humble stick insect, we obtained a male from the Museum Inquiry Centre. One evening, I noticed the male was mating with my female and things looked great!

4 months down the track, death fell upon the male and Mia soon followed.

Seasons passed. Then one morning one of Mia's offspring hatched. I was thrilled. Weeks later it was harder to keep them in their container, there were so many. When

the nymphs were older I was checking up on them in the morning as usual when I noticed that one of the female nymphs was missing. I searched everywhere looking for her. I was certain she was lost until I sprayed them with water and she moved. I saw her, hanging down abdomen facing the ground, looking exactly like a leaf.

Months later we were given a pair of Spiny Leaf-insects (*Extatosoma tiaratum*) by BOIC member and Museum Inquiry Centre staff, Katie Hiller. We decided to call the two Prince and Queen. The pair lived for ages, Prince growing to adulthood way quicker than Queen but, in winter, Queen was staring death in the face and I thought I was going to lose her. When Queen was molting into her adult skin she fell in the crowded cage and deformed the rest of her new body and soon thereafter died.

From then on I was left with 20 Tessellated Stick-insects (*Anchiale austrotessulata*), collected from bushland behind our house, until 8 weeks ago when Zac and I were each given 3 Spiny Leaf-insects from Katie and we are conducting research into the color change and species range of the Spiny Leaf-insect.

In the months in between the broods we raised, we picked up on some gentle giants on a large tree beside Lois' creek. The tree had an abundance of Tessellated Stick-insects but when we were looking at the tree we noticed a large, dark looking figure in the tree. We looked closely and it was a Titan Stick-insect (*Acrophylla titan*). When my dad pulled down the branch that the Titan was on, I was able to collect it in a container.

My experience is here for everyone to see, and just like Lois, I have still got quite a bit to learn.

AT THE LIGHT TRAP

Some notable Geometridae - *Peter Hendry*

With around 1300 species in six subfamilies, the Australian Geometridae has many notable species.

One small to medium species that stands out in a crowd is *Traminda aventiaria* (Guenée, 1857), synonymous with (*Gnamptoloma aventiaria*). With its angular hindwings and concave cutouts just below the apex of the forewings, it never fails to catch the eye when it presents itself on a light sheet. *T. aventiaria* is a member of the subfamily Sterrhinae and comes in a range of colours from straw coloured to dull red and in shades of green. I once collected a larva, pointed out to me by my big brother, hanging on a thread of silk reaching some six to eight meters from the canopy above. Not knowing what species it was or being able to determine which tree it was actually hanging from, I collected leaves of all the trees in the vicinity. These included a wattle, eucalypts, *Lophostemon* and a *Parsonsia* vine. Fortunately it decided to pupate! As it turns out they eat flowers and buds and have been recorded on the following *Acacia conferta, A. disparrima, A. leiocalyx* (Eisen, 2003) and *A. concurrens* (Moss, 2001). Don Herbison-Evans web site also lists *A. decurrens, A. aulacocarpa, Pithecellobium*

species and *Rosa* species. It pupated by suspending itself in some webbing. *T. aventaria* has a distribution from northwest Australia to the Northern Territory and from Cape York to northern New South Wales. It is also found overseas in India and Sri Lanka through Southeast Asia to Australia (Common, 1990). It appears that it is on the wing all year round as I have photographed it here at Sheldon, Redland City, in all but the months of June, October and December and I have photographed it in October at Bundaberg.

Colour forms of *Traminda aventiaria*

T. aventiaria larva

T. aventiaria pupa

Amblychia subrubida (Warren, 1896) subfamily Ennominae, certainly made me stand up and take notice when I first encountered it on the window of a rainforest hideaway in northern New South Wales. As the specific name implies it has orange-red patches on the underside of the hind-wings and it was from this angle that I first viewed it. It

Amblychia subrubida

forms a less striking image when viewed from the top where it has patterns in shades of grey and tan. I was unable to find anything on the biology of *A. subrubida.* It

occurs in New Guinea and New Caledonia and in rainforests in coastal eastern Australia as far south as Kiama, New South Wales (Common, 1990).

The genus *Thalaina*, Walker, 1855, of which Australia has ten described species, is also from the subfamily Ennominae. Known as satin moths they are classed as having a southern distribution (Common, 1990). At the light trap I have only encountered one species, the angled satin moth, *Thalaina angulosa* Walker, 1865. This striking species, with its satin white wings and orange red markings outlined with black, has come to light on two occasions. The first was on the 6/4/2007 on a property south of Tenterfield and the second two years later and almost to the day, 10/4/2009, on the same property. The larvae of *T. angulosa* are listed on Don Herbison-Evans web site as feeding on *Acacia pycnantha* and *Cassia tomentella*. It has a distribution from inland southern Queensland and New South Wales, western Victoria, South Australia and southwestern Western Australia (Common, 1990).

Thalaina angulosa

Niceteria macrocosma (Lower, 1899) another member of the subfamily Ennominae, has come to light on several occasions. It has appeared here at Sheldon during the months of April and May and also on my bush block west of Bundaberg in May. On the property south of Tenterfield it has appeared in January 2007 and 2009. The larva feeds on *Eucalyptus* and *Angophora* and it ranges from the Atherton Tableland, Queensland, to Victoria and South Australia (Common, 1990).

Niceteria macrocosma

Dysphania numana (Cramer, 1779), (aka *D. fenestrata*) subfamily Geometrinae, this large and beautiful moth is known as the Four O'clock Moth because of its habit of flying late in the afternoon. I first encountered it 76 km northwest of Mackay when it came to light at ten past eleven on the night of the 19th October 2008! Another specimen was seen flying the following morning around seven o'clock as we were breaking camp!! The larva of *D. numana* is equally as stunning, being bright yellow with a row of white centered black spots down each side and a double row of black spots down the middle of its back. They feed on *Carallia integerrima* in northern Queensland and *C.brachiata* at Byfield near Rockhampton (Common,1990). Don

Herbison-Evans web site also lists *Melicope elleryana*. It occurs in Australia and New Guinea and shows considerable geographical variation (Common, 1990).

Dysphania numana

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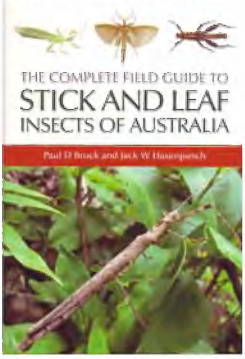
Photos : Peter Hendry

BOOK REVIEW

"The Complete Field Guide to Stick and Leaf Insects of Australia" by Paul Brock and Jack Hasenpusch (2009). Published by CSIRO. Reviewed by *Lois Hughes and Benjamin Jacob*



To review this newly released and eagerly awaited field guide on stick and leaf insects is a rather daunting task, but also one I consider to be a privilege. It was daunting because I had no prior knowledge of stick insects before encountering the female Goliath Stick-insect mid 2007 and its short time in captivity with me and then the others in 2008, the result of which appeared in our previous magazine. This review will certainly not be from a scientific viewpoint. I will leave that to others well qualified to evaluate its merits and they are many.

My viewpoint is from someone with an eagerness to learn, who is searching for answers, has a keen interest, has hand-reared a number of species and also needs detailed information on which to base her art work. I now realize that the majority of our members probably fit into one or more of these categories.

I smiled as I read the word "complete" in the book title! These masters of disguise may yet surprise us with other, as yet undiscovered species revealing themselves, especially with the book to encourage more of us to go searching for these elusive and fascinating creatures.

I found the entire book to be very interesting and helpful throughout, starting from the foreword by David Rentz, who is also highly praised in the acknowledgements section. David, by the way, is the notable author of "Grasshopper Country"- "the abundant orthopteroid insects of Australia"

A lovely illustration of the Titan Stick-insect and other insects (from Guérin 1835) enlivens the preface and is accompanied by an overview by the authors and I quote….."The lack of knowledge of Australian phasmids inspired us to write this field guide. We hope to encourage all those interested in these fascinating creatures to identify them and help to conserve them."… "The layout of this book is designed to be user friendly and avoid very technical terms. There are practical, well illustrated sections for even the most experienced phasmid hunter on anatomy, classification, collecting, photographing, rearing and studying these insects, as well as concise illustrated notes on each species. In an attempt to simplify identification for novice enthusiasts, the section on pages 33-38 illustrates species in selected genera and includes a quick guide to the relevant sections of text. Most species are large and conspicuous enough to identify without additional magnification, but a 10 x 20 hand lens may be useful, particularly for eggs."

The authors have more than fulfilled the above criteria they set for themselves. As can be seen from the acknowledgements, they drew from a rich and widespread source of both Australian and international authorities and institutions, being the eminent, notable and dedicated who have contributed greatly to our knowledge and understanding of our country's rich and diverse plant and insect life, for which we can all be most grateful.

The book, of 204 pages, is of a manageable size for use in the field, is generously illustrated throughout, with helpful accompanying captions for each photo and is divided into 4 chapters.

1. The Introduction – pp. 1-14
2. Habitat and Ecology – pp. 15-20
3. Collecting, preserving, photographing and rearing – pp. 21-32
4. Guide to Species – pp 33-148

This is followed by Appendix 1. Keys to genera and species - pp. 149 -181
Appendix 2. Classification of phasmids - pp. 182 - 184
Appendix 3. Checklist of Australian phasmids - pp. 185 -191

A very helpful glossary of 4 pages is then followed by "References" and "More About Phasmids" which list international organizations which cater to the interests of people who study phasmids.

An "Index of Common Names" covering 3 pages follows and is the only section which I feel could have been improved by the addition of page numbers, although this

has been adequately covered in the following "Index to Valid Scientific Names" which is four pages long.

In the introduction detailed anatomical descriptions accompanied by a photo with key parts of the body clearly marked as well as other line drawings are helpful features. The addition of the plural names of body parts, where applicable, is also a welcome addition, especially for novices like me.

Close-up photos of the Goliath as well as detailed information in "Appendix 1 – Keys to genera" … enabled me to more accurately depict this species in my latest painting, so this book has already proved to be a valuable resource for me.

The dozens of photos throughout the book are fascinating. A couple of the highlights, apart from the great male and female photos in the large "Guide to Species" chapter, are the inclusion of many of the nymphs. This is helpful because of the marked colour and shape changes they go through to reach maturity. The depiction of the eggs of each species, where known, is very helpful. What an amazing array of shapes, sizes and colours they come in. As a result of the photo of the spermatophore shown in the mating pair of Cigar Stick-insects and the caption beneath, I was able to identify the strange looking "thing" amongst the frass and eggs on the bottom of the Spiny's cage!

The authors' style of writing in this book is very engaging, encouraging, easily understood, humorous at times and very informative. Aimed at a wide audience, the scientific is balanced by the inclusion of the practical and helpful. It's not a stuffy scientific tome of facts but is chocked full of information that only those who have had hands on experience in the field and in rearing these insects in captivity would know. It seeks to encourage others to go and do likewise and enjoy the pleasures and challenges that such activity provides.

Congratulations on an excellent publication - a worthy addition to any nature lover's library at a price that won't break the bank. ***Lois Hughes***

Phasmids - a fascinating hobby, wonderful pets, and a knowledge base in a book. From my perspective Paul and Jack did an amazing job on the book

"The Complete Field Guide to Stick and Leaf Insects of Australia" has given me another way of looking at stick insects in general, and gave me the privilege of reviewing the book for the club. When I received the book from Lois Hughes, I was very eager to get into it and when I did, it expanded my horizons into phasmid research and gave me new insights on how to do so.

The appendix and glossary are very helpful when describing physical appearances of all the phasmids described in the book. The classification of phasmids section, before the glossary, is a good and reliable source to refer to when classifying stick insects and the describers (Gray, Stål etc).

In conclusion I think anyone reading this book will have a wonderful experience and gain lots of knowledge on the subject. ***Benjamin Jacob*** (13 years old)

"The Complete Field Guide to Stick and Leaf Insects of Australia" is available from the club for $40 plus $5 P&H or from club displays.

EXCURSION REPORTS

Mt. Cotton Excursion, 7th February 2009 – *Lois Hughes*

In the weeks leading up to the 7th February, we had received considerable rain in our area, decreasing to showers a few days before, hot and humid, all conditions butterfly populations respond favourably to.

After greeting and meeting some new members, renewing old acquaintances and regular attendees, 13 of us briefly walked around the glorious gardens, lush and colourful, where Zebra Blues were prolific, before moving in convoy up the steep and winding road to the top of Mt. Cotton. The view was breathtaking and the breeze refreshing, as we started our walk. Behind a fenced area we saw the endangered shrub, *Corchorus cunninghamii*, indigenous to the area, the local population boosted by plants raised from seed collected and propagated by Redland City voluntary groups to ensure this rare plant's survival. We soon encountered a Dainty Swallowtail and a Clearwing Swallowtail male and as we fanned out the youngsters, Jade and Ben, energetically chased and captured, for close scrutiny and release (or kept alive for further research) grasshoppers and mantids, moths and caterpillars, their sharp eyes finding things we adults missed. Cicadas serenaded and dragonflies darted, as we enjoyed sharing our wildlife encounter stories, admired the many butterflies on the wing and dodged the Golden Orb spider's web and various other webs strung across our path or photographed interesting creatures. The Blue Triangle, male Orchard Swallowtail, Monarchs and Glasswings drifted lazily around the undergrowth while, a Pale Triangle, White Nymphs, a Lesser Wanderer, Albatross, Gull, Jezabels and Small Blues zoomed past so quickly we could only glimpse them.

Two of my favourites put in an appearance. One is the Purple Crow and although its host plant, the Burny Vine, *Trophis scandens,* grows abundantly in the area, the butterfly is now only occasionally seen. Sometimes mistaken for the Common Crow (which we also saw) it has fewer white markings overall. With the rich dark brown of its upper wings suffused with purplish-blue, it is always a delight to see. Another favourite, with the burnt orange and brown of its upper wings flashing, the female Australian Leafwing slowly covered the ground obviously searching for its host plant. This Love Flower, *Pseuderanthemum variable,* (which we had seen at this site), has attractive lilac flowers and variously coloured and patterned leaves making it a worthwhile garden ground cover inclusion.

We found many small shiny red and black beetles on *Clerodendrum tomentosum* as well as a larger pale orange and white spotted beetle feeding, along with its larvae, on eucalypt leaves. Just as some of us were preparing to leave, a strikingly patterned Joseph's Coat Moth led us on a merry chase as we followed its flight around the tree trunks hoping in vain it would again settle for a photograph.

A few members stayed on and had a picnic lunch at the table provided, drinking in the view, and later taking a more leisurely stroll around the gardens below, as the rest of us hurried to other destinations. A very enjoyable outing.

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A visit to Jak and Ginny Guyomar's place at Gumdale 14th March 2009 - *Ross Kendall*

Jak's ten acre property is well vegetated with the house set well back from the road among the trees, although there is a safety margin to allow branches from magnificent Scribbly Gums to fall and not demolish the house or part thereof!

We took nearly and hour to walk through part of the property and although only a modest number of butterflies were seen on the day, Jak assured us that over the years a great number of species have been observed in his garden and the surrounding bushland. This undoubtedly reflects the diversity of both local endemic plants and native species from elsewhere. Among the most memorable were: three species of *Senna*, hostplants for the Migrant butterflies; four species of *Lomandras*, hostplants for the Trapezitine skippers; *Meladorum leichhardtii*, hostplant for the Fourbar Swordtail and Pale Triangle; two *Parsonsia* species and *Trophis scandens*, hostplants for the Common and Purple Crows respectively; Native Wisteria *(Callerya megasperma)*, hostplant for both the Common Pencilled Blue and Narrow Banded Awl; Burny Bean *(Mucuna gigantea)*, hostplant for both the Green Awl and the White-banded Plane; *Ghania aspera,* the Large-fruited Sawsedge, hostplant for various sedge skippers and last but not least several impressive Tagala vines *(Aristolochia acuminata)* hostplant of the Birdwings of north Queensland and the Clearwing Swallowtail *(Cressida cressida)* locally.

Small Green-banded Blue

Butterflies species observed were: Common Crow *(Euploea core)*, Lemon Migrant *(Catopsilia pomona)*, Yellow Migrant *(C. gorgophone)*, Blue Triangle *(Graphium sarpedon*), Pale Triangle *(G. eurypylus)*, Evening Brown *(Melanitis leda)*, Small Green-banded Blue *(Psychonotis caelius)*, Black Jezebel *(Delias nigrina)*, Blue Tiger

(Tirumala hamata), Wide-band Grass-dart *(Suniana sunias)*, Pale-orange Darter *(Telicota colon)* and Brown Ringlet *(Hypocysta metirius).*
A larva of the Green Awl *(Hasora discolor)* was found on the leaf of the Burny Bean *(M. gigantea).*

Over cups of tea and coffee with many delicious "nibbles" we saw Jak's collection of restored vintage cars and a "museum load" of mechanical memorabilia. Jak travelled extensively overseas for many years and has managed to assemble quite a collection of insects so we spent an enjoyable hour studying many of them. A few samples are shown below. Photos : Hongming Kan

Part of Jak's collection

Gumdale Conservation Setup – *Jak Guyomar*

Since members of the BOIC visited our 4 hectare property at Gumdale in March, there has been interest in the Voluntary Conservation programmes that we have had applied to our property. As we have had a long-term commitment to conservation, just as many of you club members have, we investigated the possibilities to protect the conservation values of our property.

The Municipal Councils of many areas have set up programmes to enable landowners to apply for admission to these schemes in joint partnership. You just ask them to send you the "blurb". This consists of three levels according to the conservation value of the property they are applied to: Level 1 is Land For Wildlife (LFW); Level 2 is Voluntary Conservation Agreement (VCA); Level 3 is Voluntary Conservation Covenant (VCC).

The process is that you apply for LFW listing via your Local Council who will then send qualified inspectors to evaluate the conservation value of your property. This is done in consultation with the landowner and, if suitable, your property will be listed with LFW and you sign a mutual agreement document. You will then receive support for your conservation efforts and an annual cash grant, according to the area of the

land listed. There are at present some 351,000 hectares listed in Queensland under this scheme.

If you wish to raise your property to the next level (VCA) and it is evaluated as of significant conservation value, you again apply to the Local Council. Again an annual cash grant and support is part of the VCA agreement.

Then there is the VCC level. Again application by the landowner is required. This level of listing goes on your property deed and guarantees the conservation status of your land in perpetuity. Also the annual grant rises. This depends on the area covered by the Covenant and on the Local Council. 90% of our property, which is in the Brisbane City Council's area, is under a VCC and we receive an annual grant to the value of 90% of our rates. Very helpful for us conservation minded OAPs on relatively large properties who detest the dreaded developer!

The schemes have many get-togethers to disseminate mutual information and once a year there is a plant handout of 20 to 40 local species. Then there is free access to the Queensland Herbarium for plant identifications etc and to property management plans for us easily confused people!

So if you feel this suits your BOIC philosophy, get in touch with your Local Council and join us. They have given us support and advice to enable and motivate us to now bring 90% of our weed infested "OF SIGNIFICANT CONSERVATION VALUE & ENDANGERED ECOLOGICAL AREA" back to some semblance of "originality". Also we have found the conservation officers in the BCC are of like mind to ourselves and very helpful. 90% of our property was infested with weeds, mainly *Ochna serrata*, when we joined the LFW scheme 7 years ago. Now we have removed approximately 90 % of that (sounds easy doesn't it?). We would not have had the incentive to work this hard without the motivation from the scheme as there was always tomorrow. And the gain for butterflies? Well, for a start, we can now keep an eye out for *Eurema* sp. on the *Glycine* plants which have come back.

REPORT

CitySmart Neighbourhood Fair, 26th April 2009 - *Ross Kendall*

Part of the BOIC display

The latest Brisbane City Council's CitySmart Neighbourhood Fair was held at Perrin Park, Taringa on Sunday 26th April 2009 on a perfect autumn day.

Alisha Steward, Hongming Kan and I set up an attractive BOIC display in a marquee provided by the City Council and were kept busy with a constant flow of visitors to the site.

Presentation of our magazine to
Lord Mayor , Campbell Newman

During the morning we had a visit from the Lord Mayor, Campbell Newman and the local Councillor, Jane Prentice. I took the opportunity to thank them on behalf of the Club for the Council grant which helps meet the cost of publication of "Metamorphosis Australia" in colour and presented them with a copy of our latest issue.

Photos : Hongming Kan

LETTERS

Red Mite

A Red Mite, an Arachnida *Charlectona* sp. was found on a leaf of *Pararistolochia praevenosa.* The mite is a natural enemy of *Ornithoptera richmondia,* which sucks the fluid out of the butterflies' eggs. The body of the mite was around 5mm long and its long legs enabled it to move around very rapidly.

A very dead looking egg was also found and under an endorsement on permit No. WISP00582002 issued to Dr. Don Sands on behalf of the Richmond Birdwing Recovery Network, the dead egg was opened up. In the egg was a desiccated larva. It was not very photogenic but some details of the larva could be made out.

Reference:

Conservation of Birdwing Butterflies edited by Don Sands and Sue Scott. Published in Australia by SciComEd Pty Ltd. November 2002

Photo: Hilton Selvey

Hilton Selvey

YOU ASKED

On the 29/4/09 I was on a carp removal field trip upstream of Luscombe Weir on the Albert River. During my lunch break I noticed an Australian Admiral (*Vanessa itea*) ovipositing on native stinging nettles *Urtica incisa*. I was able to approach quite closely. Interestingly the butterfly also laid eggs on the base of the trunk of a Black She-oak (*Allocasuarina littoralis)* immediately adjacent to the clump of stinging

nettles. Unfortunately I didn't have a camera with me at the time. Is this a common occurrence for admirals and other butterflies to lay on woody structures adjacent to foodplants? I would be interested to hear of similar observations. It could be a useful strategy when the foodplant is herbaceous or an annual. For example if the part of the nettle on which the eggs were laid withered, died and blew away before the eggs hatched, then the larvae may emerge well away from the foodplant and die. However if the eggs were laid on a trunk adjacent to the clump of herbaceous foodplant, then it is likely some food plants will still be nearby for the larvae to find when they emerge.

Michael Hutchison

Michael, your interesting observations are not new for *Vanessa itea.* Braby 2000 (p 582) reports observations by R.J. Powell (1967) of this species depositing eggs on "nearby objects such as twigs and wooden fences". Bob Miller (BOIC Newsletter issue 22 Sept. 2001) also reported *Cupha prosope* (the Bordered Rustic) depositing eggs on spiders' webs adjacent or attached to the hostplant.

This habit is well known in the family Hesperiidae (Skippers etc.). I have often noticed *Trapezites symmomus* (Splendid Ochre) ovipositing on dead leaves, shed bark etc. adjacent to their host plants (*Lomandra* species). This has been reported in several publications including Braby 2000 (page 113), and Rob Macsloy (BOIC Newsletter No. 21 June 2001) reported an amusing incident wherein a "Symmomus Skipper" laid an egg on his wife's "host pants" whilst she was standing near a *Lomandra longifolia* in their home garden!

John Moss

WHAT INSECT IS THIS?

Fig. 1. Pupal cage-like cocoon of *Cyana meyricki* built over two parallel scratch marks on *Eucalyptus tereticornis*
(Photo: John Moss)

The Mystery Photograph from Last Issue - *Geoff Monteith**

On page 34 of the last issue (Issue 52) of *Metamorphosis Australia* a mystery insect structure is shown in a photograph by John Moss (Fig 1). It is an oval, cage-like structure, and through the bars is visible an insect pupa. No readers were tempted to guess its identity, so I will now tell a little about this fascinating creature.

I've seen these strange little cages several times over the years and they have occasionally been sent into the Queensland Museum by puzzled members of the public. They are normally found

attached to a flat surface in a concealed place near dead wood, often under the loose bark of an old dead tree. A couple of times they have had live pupae in them and we have been able to rear out the moth responsible. One of these, from a pupa collected near Moggill last October, is shown in Fig 2. This handsome species is *Cyana meyricki* Rothschild and belongs to the subfamily Lithosiinae of the family Arctiiidae.

Fig. 2. Newly-emerged adult of *Cyana meyricki* (Photo: Jeff Wright, Queensland Museum)

The species is figured in colour on Plate 18 of Common (1990) under the name *Chionaema meyricki,* but Ted Edwards' more recent checklist of the family (Edwards 1990) places it in *Cyana.*

Close examination of the "cage" shows that it is made of barbed insect setae which have been cleverly arranged in two rows of vertical setae (which form the two sides of the cage) held in place by several rows of horizontal setae. Every cross-junction of setae is held firmly together by a small hitch of sticky caterpillar silk. The setae are very regularly spaced so that most of the apertures of the cage are almost perfect squares. The setae are curved into position to close both the mid-dorsal line and the ends of the cage. This curvature means that the whole cage is under some tension and, if depressed with a finger tip, it springs back into shape when released. The naked pupa hangs in the middle of the enclosed cage, supported by several loops of silk which have suspension lines which run to the bars of the cage. Amazingly, the last larval skin, which would have been shed during the last pre-pupal wriggle, is always deposited outside the cage. Because of these "escapologist" tricks I dubbed the species the "Houdini Moth" when I exhibited it to the Entomological Society of Queensland last year (Monteith, 2008).

Larvae have not been seen building these cages, and have not been bred through to be absolutely sure what the larva is. The literature suggests that most larvae of the Lithosiinae feed on algal and fungal growth on the surface of decaying wood, and this accords with the situations where the pupal cages are found. I have found arctiid larvae (Fig. 3) a couple of times in the same situations as the pupal cages are found.

Fig. 3. Presumed larva of *Cyana meyricki* (Photo: Geoff Thompson, Queensland Museum)

These have dense setae of exactly the same size, and with the same barbs, as those seen in the "cages" so I am reasonably confidant that these are the larvae of *Cyana meyricki.* The real mystery of our little Houdini Moth lies in comprehending just how this hairy caterpillar removes those setae from its back, arranges them in the complex structure of the cage, glues them together with hitches of silk, and then ends up swinging in a hammock inside the cage. Readers might like to look at my longer discussion of this in the ESQ News Bulletin which is also available online with more colour photographs in the ESNSW's Circular (Monteith 2008).

So there's a challenge for BOIC members, find those larvae next summer and tell us how they make that cage!

REFERENCES

Common, I.F.B. 1990. *Moths of Australia.* Melbourne University Press, 535 pp.

Monteith, G.B. 2008. The mystery of the arctiid moth, *Cyana meyricki* Rothschild, an Insect Houdini. *News Bulletin of the Entomological Society of Queensland* 36(9): 236-243. (Republished in May 2009 with colour images in *Tarsus, Circular of the Entomological Society of New South Wales* 586: 7-9. viewable on-line at http://www.entsocnsw.org.au/images/stories/media/tarsus%20586%20may%202009.pdf)

Edwards, E.D. 1996. Arctiidae, pp 278-286. In Nielsen, E.S., Edwards, E.D. & Rangsi, T.V. Checklist of the Lepidoptera of Australia. *Monographs on Australian Lepidoptera* 4:1-529.

*Queensland Museum, Box 3300, South Brisbane.Q.4101

OTHER GROUPS' ACTIVITIES

BOIC member, Russel Denton, was awarded an "Australia Day 2009 Achievement Award" for his voluntary work at Boondall Wetlands. Brisbane Lord Mayor, Campbell Newman presented the award. Congratulations Russel.

BUTTERFLY AND OTHER INVERTEBRATES CLUB PROGRAMME

Planning and Management Meeting

What:	Our planning meetings are informative and interesting. As well as planning our activities we share lots of information. All members are welcome as this activity is also a general meeting of members.
When:	**Saturday, 8th August , 2009** from **1.30 pm**
Where:	Ross Kendall's home at 17 Eldon Street, Indooroopilly
R.S.V.P.:	Ross on 3378 1187 or Daphne on 3396 6334

See enclosed flyer for information about the events at which BOIC will hold displays.

Disclaimer

The magazine seeks to be as scientifically accurate as possible but the views, opinions and observations expressed are those of the authors. The magazine is a platform for people to express their views and observations. These are not necessarily those of the BOIC. If inaccuracies have inadvertently occurred and are brought to our attention we will seek to correct them in future editions. The Editor reserves the right to refuse to print any matter which is unsuitable, inappropriate or objectionable and to make nomenclature changes as appropriate.

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We would like to thank all these people for their contribution.

Dedicated to a better Brisbane

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Butterfly and Other Invertebrates Club Inc.
PO Box 2113
RUNCORN Q. 4113

Next event – Planning and Management Meeting on 8th August. See programme for details.